

### **Examiner Interview Summary**

Examiner Schultz is thanked for the courtesies extended to Applicants' Representatives Katharine A. Jackson Huebsch and Wendy Thai during the telephonic interview conducted on October 13, 2005. During the interview, the 35 U.S.C. § 112(1) rejections and possible claim amendments were discussed.

### **REMARKS**

Reconsideration and withdrawal of the rejections of the claims, in view of the amendments and remarks presented herein, is respectfully requested.

Claims 6-8 are amended, and claims 1, 4, 9-10, and 16-17 are cancelled. At page 8 of the Office Action, the Examiner indicates that claims 20 and 21 are allowed because the art does not teach or fairly suggest the sequence of SEQ ID NO:2. The pending claims are claims 2-3, 5-8, 11-15 and 18-26.

Claim 6 has been amended to clarify the subject matter of the invention. Support for the amendment to claim 6 can be found in the specification, for example, at page 1, lines 30-31.

Claims 7-8 have been amended to clarify the subject matter of the invention.

No new matter has been added by way of these amendments.

### **The 35 U.S.C. §112 Rejections of the Claims**

The Examiner rejected claims 2-3, 5-8, 11-15, 18-19 and 22-26 under 35 U.S.C. § 112, first paragraph, as containing subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention at the time the application was filed. In addition, the Examiner rejected claims 8, 11-15 and 17-19 under 35 U.S.C. § 112, first paragraph, alleging that the specification does not reasonably provide enablement for treatment of any tumor. As these rejections may be maintained with respect to the pending claims, there are respectfully traversed.

Claim 6 is directed to an oligonucleotide comprising an antisense nucleic acid sequence that is about 18 to 26 nucleotides in length, is at least 90% complementary to and is capable of specifically binding to a contiguous portion of a nucleic acid that encodes a human antioxidant enzyme selected from the group consisting of manganese superoxide dismutase, copper and zinc

superoxide dismutase, catalase, phospholipid glutathione peroxidase, and cytosolic glutathione peroxidase; wherein the contiguous portion includes the start codon of the nucleic acid encoding the human antioxidant enzyme. Claim 7 is directed to an oligonucleotide comprising an antisense nucleic acid sequence that is about 18 to 26 nucleotides in length, is 100% complementary to and is capable of specifically binding to a contiguous portion of a nucleic acid that encodes a human antioxidant enzyme selected from the group consisting of manganese superoxide dismutase, copper and zinc superoxide dismutase, catalase, phospholipid glutathione peroxidase, and cytosolic glutathione peroxidase; wherein the contiguous portion includes the start codon of the nucleic acid encoding the human antioxidant enzyme. Claim 8 is directed to a method of treating a tumor in a mammal comprising reducing antioxidant enzyme levels in a cell by administering a therapeutic agent comprising an antisense nucleic acid sequence that is about 18 to 26 nucleotides in length and is capable of specifically binding to a contiguous portion of a nucleic acid that encodes a human manganese superoxide dismutase, and wherein the contiguous portion includes the start codon of the nucleic acid that encodes the human manganese superoxide dismutase. Claims 2-3, 5, 11-15, 18-19 and 22-26 depend from claims 6-8.

It is respectfully submitted that the amendments to claims 6-8 overcome the 35 U.S.C. § 112, first paragraph, written description and enablement rejections. Moreover, the Examiner has conceded that the specification is enabling for *in vivo* antisense-mediated inhibition of human superoxide dismutase in the treatment of tumors.

Therefore, it is respectfully submitted that the pending claims are in conformance with 35 U.S.C. § 112, first paragraph, and withdrawal of the rejection of the claims under 35 U.S.C. § 112, first paragraph, is respectfully requested.

#### The 35 U.S.C. §102 Rejection of the Claims

The Examiner rejected claims 2-3, 5-7 and 22-26 under 35 U.S.C. § 102(b) as being anticipated by Gonzalez-Zulueta *et al.*, *The J. Neuroscience*, 18:6 (1998). As this rejection may be maintained with respect to the pending claims, this rejection is respectfully traversed.

In particular, the Examiner alleges that the claims “read on any antisense oligo so long as it targets any portion of any nucleic acid that encodes a human start codon that is found in any of

the five recited human antioxidant enzymes” (page 7 of the Office Action). In addition, the Examiner asserts that Gonzalez-Zulueta *et al.* teach a phosphorothioated antisense compound targeted to a nucleic acid that encodes a human antioxidant enzyme start codon because, according to the Examiner, although the target of Gonzalez-Zulueta *et al.* encodes a rat manganese superoxide dismutase, the start codon is identical to the human start codon (page 8 of the Office Action). As discussed above, claims 6 and 7, as amended, are directed to oligonucleotides that are antisense to a contiguous portion of a nucleic acid that “encodes” a human antioxidant enzyme “wherein the contiguous portion includes the start codon of the nucleic acid encoding the human antioxidant enzyme.” Claims 2-3, 5 and 22-26 depend from claim 6. Thus, it is respectfully submitted that claims 2-3, 5-7 and 22-26 are not anticipated by Gonzalez-Zulueta *et al.*

Therefore, withdrawal of the rejection under 35 U.S.C. § 102(b) is respectfully requested.

**CONCLUSION**

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6913 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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**CERTIFICATE UNDER 37 CFR 1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop RCE, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 14th day of October, 2005.

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